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ABSTRACT

To ensure that resource assignments may be appropriately allocated on a sound basis, this study was designed to provide the Arizona research coordinating unit of career and vocational education with a prioritized list of vocational education research needs. Representatives from all levels of vocational education in Arizona were assembled to identify broad problem categories which later provided the core from which the problem rating identification instrument was developed. In phase I of the study, this instrument was mailed to 1,850 Arizona educators representing five service areas, local and State administration, and teacher education. In phase II a stratified random sampling of the data collected was divided into two categories: Researchable items and problems. The researchable items were then reworded into research statements. Finally in phase III, the 10 most identified research statements were ranked in order of importance. Samples of all survey instruments used are appended. (BM)

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ED142798

TO IDENTIFY AND PRIORITIZE VOCATIONAL RESEARCH NEEDS IN ARIZONA

Final Report of a
Vocational Education Research Project

Directed by

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Beyond our own micro environment, we are indebted to a number of people who contributed in many ways to the culmination of this study. To the State Staff whose cooperation was unlimited, to the County Coordinators and total Arizona education community, we owe a great deal of gratitude for their quick and effective responses to our search for data.

Kenneth L. Rowe
Project Director

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Associate Project Director

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INTRODUCTION

The purpose of this study was to provide the Division of Career and Vocational Education and specifically the Research Coordinating Unit, in Arizona with scientifically based vocational research needs in a prioritized list so that resource assignments may be appropriately allocated on a sound basis. Emphasis was placed on collecting data vital for short-range as well as long-range planning.

NEEDS STATEMENT

The operating of a state system designed to administer programmatic research and developmental activities demands that the determination of priorities will provide direction to the system. These priorities, provide the means for distributing funds among research-related activities.

Priorities in research as perceived by vocational educators and educational administrators are absolutely essential to ensure that limited research funds are expended in those areas which will benefit the greatest needs.

Publicly supported research projects must demonstrate that the research results will be effectively applied by vocational educators. The net result is that the gap between kinds of research and their applications will be narrowed.

Applied research aims at finding the solution to some practical problem or difficulty or need in a given situation. Often times, this means that those educators actually involved with the problem should be the ones to conduct the research or at least to be actively involved in

the projects so the results are more likely to be accepted, diffused, and utilized.

This study utilized a system of inputs involving state-wide representation at all educational levels.

RELATED RESEARCH

The Minnesota RCU funded a study entitled, Research Priorities for Vocational Education: 1970-71. The purpose of the study was to ascertain the nature of the research and development needs in the state as perceived by practitioners.

Population and Sample:

The population was defined as those persons in Minnesota who had some present professional responsibility in the field of vocational and practical arts education. The mailing list maintained by the Minnesota Research Coordinating Unit, containing about 6,000 names of educators classified in this manner, operationally defined the population.

A disproportional, stratified random sample of the population was utilized. The population was stratified according to educational responsibility (administrator, counselor, teacher, etc.) and by level of educational employment (i.e. elementary, secondary, post-secondary, etc.). In those categories which contained more than 100 members, a fifteen percent sample was taken; the total population was selected from those categories with less than 100 members. The total sample selected numbered 1,059 persons.

Instrumentation:

It was believed that a relatively unstructured instrument would optimize the validity of the study since the responses would likely reflect the research and development needs actually perceived by each respondent.

The instrument, therefore, utilized a two dimensional framework with research-related activities as one axis of the matrix and disadvantaged and non-disadvantaged groups as the other axis. These dimensions were thought to be indicative of the major intents and purposes of the legislation under which the funds to be utilized were provided (Title 1, Parts C and D, Vocational Education Amendments, 1968). The instrument (Appendix B), together with a cover letter and stamped, self-addressed envelope, was mailed to each educator sampled.

Findings and Conclusions:

An examination of the distribution of responses and the rank order of priorities reveals the following:

1. Only about one-fifth of the vocational educators in the state had strong enough concerns about research and development needs to respond to the initial mailing of the questionnaire.

2. Practitioners who responded recognized slightly more research needs than development needs and are slightly more concerned with the disadvantaged student than the non-disadvantaged student.

3. Responding practitioners have a very limited perspective of "developmental" activities; their definition includes primarily the development of programs and curricula.

4. Although the questionnaire did not specifically request suggestions for dissemination and evaluation activities, some respondents recognized a need for these kinds of efforts.

A breakdown of specific problem areas volunteered by respondents within each of the research and development categories is as follows:

1. Research Priorities - Disadvantaged

    a. Student Characteristics
    b. Educational Programs and Curriculum Development
    c. Manpower Needs and Employment Opportunities
    d. Learning Processes and Teaching Methods

2. Research Priorities - Non-disadvantaged

    a. Educational Programs and Curriculum Development
    b. Student Characteristics
    c. Manpower Needs and Employment Opportunities

3. Developmental Priorities - Disadvantaged

   a. Educational Programs and Curriculum Development

4. Developmental Priorities - Non-disadvantaged

   a. Educational Programs and Curriculum Development

The findings for the total sample disclosed a surprising consensus among respondents in identifying major research and development proglem areas. From a list of nine possible problem areas, the respondents focused on only four. The agreement on problem areas for developmental priorities was even more sharply evident, with strong emphasis given only to Educational Programs and Curriculum Development.

It was deemed important to know if the various groups comprising the sample (i.e. administrators, counselors, teachers, etc.) were responding alike or if they possessed differential viewpoints corresponding to the position they held. Consequently, the two groups assumed to be most unlike each other in responses (administrators and taechers) were examined separately and the findings compared. The results showed no differences in the general patterns of responses between teachers and administrators; they were in agreement in their perceptions of the research and development needs of vocational education.

Other Research Studies Related to This Project:

"A Survey to Identify the Major Concerns, Problems, and Needs for the Advancement of Vocational Education in Kentucky" (Kentucky, 1975, Project Director: Robert M. Schneider).

"Research Priorities for Vocational Education: 1970-71" (Minnesota 1971, Project Directors: Brandon B. Smith and David L. Passmore).

PROCEDURES FOR THE STUDY

A "committee of experts" was assembled to identify broad problem categories in Vocational Education in Arizona. This committee included representatives from all levels of Vocational Education--State Department of Education personnel, teacher-educators, administrators, and local teachers. Data collected from this group provided the core for the development of the problem rating identification instrument used in Phase I of the study. This instrument was validated by presenting it to State Division of Career and Vocational Education personnel and County Coordinators. After revision this instrument, appearing in the appendix of the study, was utilized to identify problems in Vocational Education in Arizona.

The instrument was mailed to 1850 Arizona educators representing these service areas: Agriculture, Business and Office, Distributive, Health, Home Economics, and Industrial Education. In addition, superintendents, principals, local directors, state department personnel, county coordinators, and teacher-educators were included. The following array of data, summarized from a more detailed table in the appendix, shows that non-teaching personnel as a category returned a higher proportion of questionnaires than did teachers:

	Teachers	Non-Teachers	Total
Questionnaires mailed	1505	345	1850
Questionnaires returned and usable	600	244	844
% of return	39.9%	70.7%	45.6%

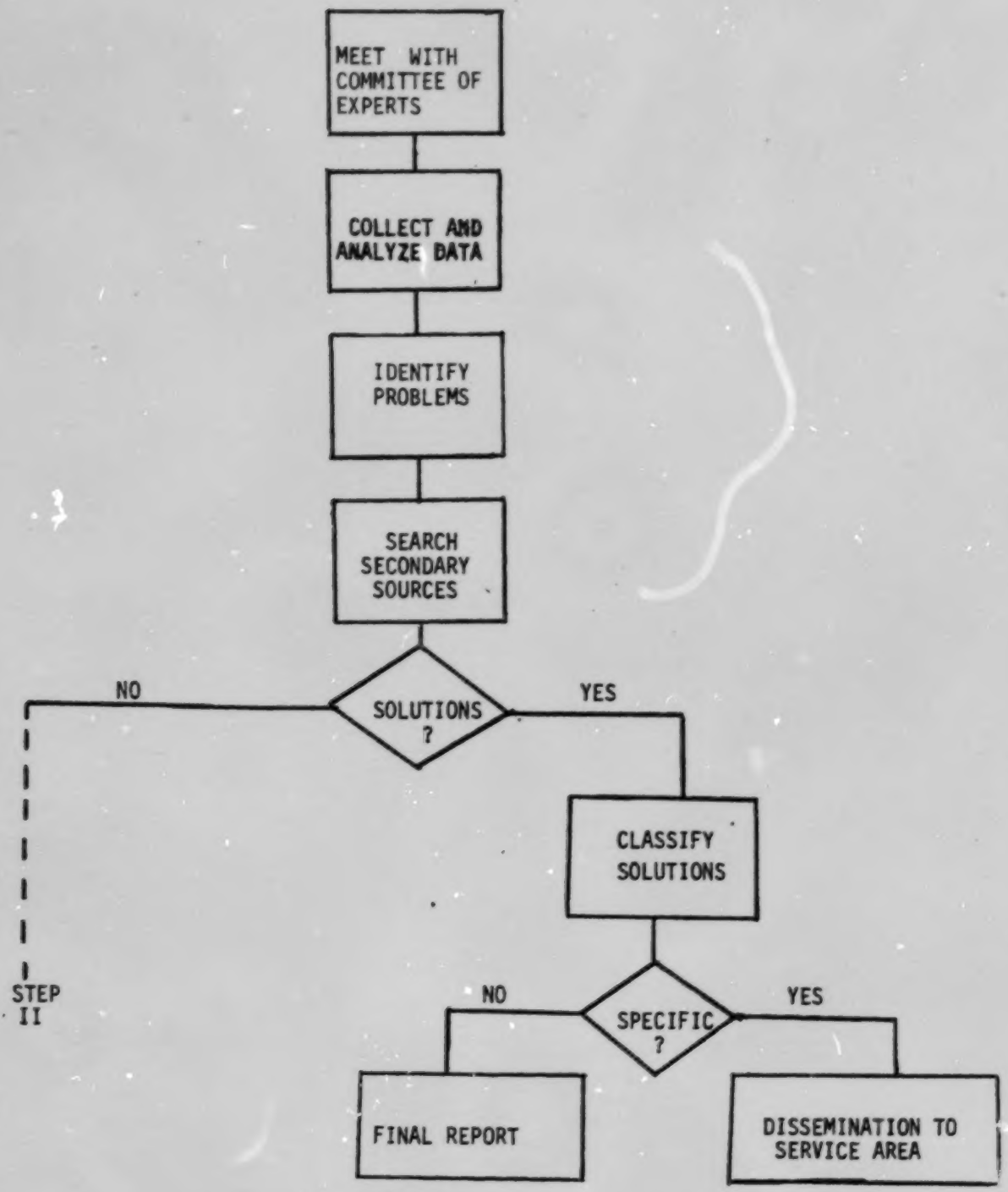
The questionnaire return percentage indicated the interest at all levels in providing input to the project.

A stratified random sample representing all categories in Phase I was selected for Phase II. Items from the Phase I survey were screened and divided into two categories--"researchable items" and "problems." The researchable items were re-worded into research statements and included in Phase II. As an integral component of Phase I, all questionnaire items were used as a basis for a review and synthesis process in the literature. That is, possible solutions to research items as well as problems were located and categorized according to service area. Results of this activity are included in the appendix.

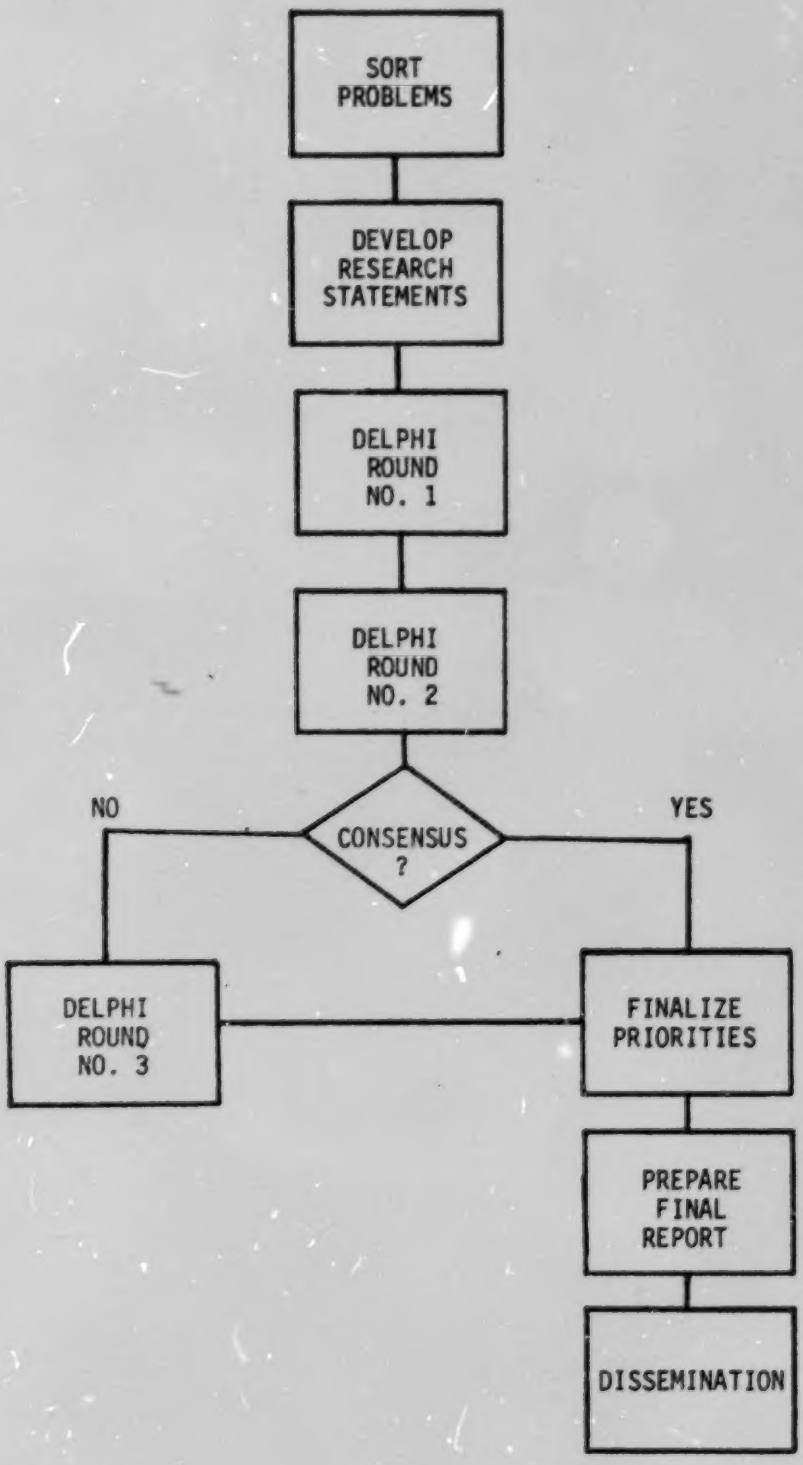
Phase II and III utilized about 50 people representing all categories who it appeared were knowledgeable in the research area.

Phase III forced a final ranking of the final ten researchable items. A step by step process illustrating the total procedure is included on the following pages.

STEP I


MEET WITH COMMITTEE OF EXPERTS
COLLECT AND ANALYZE DATA
IDENTIFY PROBLEMS
SEARCH SECONDARY SOURCES
SOLUTIONS ?
NO
YES
STEP II
CLASSIFY SOLUTIONS
SPECIFIC ?
NO
YES
FINAL REPORT
DISSEMINATION TO SERVICE AREA

STEP II


SORT PROBLEMS
DEVELOP RESEARCH STATEMENTS
DELPHI ROUND NO. 1
DELPHI ROUND NO. 2
CONSENSUS ?
NO
YES
DELPHI ROUND NO. 3
FINALIZE PRIORITIES
PREPARE FINAL REPORT
DISSEMINATION

ANALYSIS AND INTERPRETATION OF DATA

The three sections which follow (entitled Phase I, Phase II, and Phase III respectively) contain analysis and interpretation of data collected during the three survey phases of the study.

PHASE I

Participants in Phase I of the study were asked to react to a series of research needs statements. As indicated in the research design section, the statements were derived during a meeting with a panel of vocational education experts representing all levels. Participants rated the importance of each needs statement on a five point scale:

5 = of extremely high importance
4 = of high importance
3 = of medium importance
2 = of low importance
1 = of no importance

Mean scores were computed for each statement using the numerical values associated with each degree of importance. As an example, a mean score of 4.321 would indicate that the average of the responses was between "of high importance" and "of extremely high importance." Likewise, a mean of 2.693 would indicate an average response between "of low importance" and "of medium importance."

Each research needs statement has been analyzed individually. Each statement, which is numbered as it appeared on the questionnaire, is followed by an analysis of response which includes: n = the number of persons who rated the item, $\bar{x}$ = the mean score or average, and sd = the standard deviation; i.e. the measure of variability or dispersion of scores about the mean, with lower scores indicating relatively lesser degrees of dispersion. Finally, the rank order of each statement is indicated with the rank of number one assigned to the statement with the highest mean score, number two to the second highest mean score and so on. In the event of a tie of means scores, the positions in question are averaged and the same rank is assigned to each.

Responses to the Phase I survey have been organized and reported in tabular form as follows:

Table I - 1	Rank order of statements based on mean score in "Total Sample" column. In addition, n and sd are reported for "Total Sample." Also, n, $\bar{x}$, and sd are reported for groups comprising total sample.
Table I - 2 through Table I - 6	Rank order of statements as assigned by the respective groups.

As shown in Table I - 1, individual item analysis provided mean scores ranging from a high of 4.226 for the statement "What knowledge, skill, and attitude competencies are required for specific occupations and which competencies should be taught in Vocational Education?" to a low of 2.941 for "What is the impact on Vocational Education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age?"

Comparison of relative rankings in Table I - 1 through I - 6 reveals the extent to which individual groups in the sample hold common perceptions regarding a research needs area. For example, item 28 was ranked number one by the total sample as well as by four of the five groups. The fifth group, superintendents and principals, ranked item 28 in the number two position. Looking at another item in a similar fashion, it can be seen that item 23 was ranked in the twenty-sixth or last position not only by the total sample, but also by four of the five groups comprising the sample. The item was placed in the twenty-fifth, or next to last position, in the array of scores from the State Vocational Education Division Staff. In a similar fashion, numerous other comparisons of rankings can be made using the data as it is presented in Table I - 1 through Table I - 6.

In Table I - 7 the rank order of statements is based on the mean score in the "Teacher Total" column. Rank order listings derived from

TABLE I - 1
PHASE I RESPONSES RANKED BY TOTAL SAMPLE

RANK	ITEM #	ITEM		TOTAL SAMPLE	TEACHERS	Superintendents & Principals	Administrative & Support	State Voc. Ed. Division Staff	Teacher-Educators
1	28	What knowledge, skill, and attitude competencies are required for specific occupations and which competencies should be taught in Vocational Education?	n	833	620	94	80	19	20
			$\bar{x}$	4.226	4.205	4.223	4.287	4.474	4.450
			sd	0.852	0.863	0.764	0.903	0.697	0.759
2	11	What career guidance services are most needed by students? For example, career information, testing.	n	844	628	94	83	19	20
			$\bar{x}$	4.117	4.088	4.266	4.253	4.158	3.850
			sd	0.907	0.916	0.792	0.935	0.765	1.040
3	20	How effective is vocational education in teaching general employability skills as compared to specific manipulative skills?	n	842	628	94	81	19	20
			$\bar{x}$	4.010	4.019	3.979	4.086	3.842	3.700
			sd	0.905	0.909	0.867	0.897	0.834	1.031
4	19	What are the benefits of Vocational Education other than those that are job related? For example, social adjustment, coping skills, or any knowledge, skill or attitude that contributes to a well-adjusted life.	n	843	629	94	81	19	20
			$\bar{x}$	4.004	4.019	3.979	3.975	3.947	3.700
			sd	0.969	0.959	0.867	1.012	1.079	0.923
5	32	What is (or should be) the nature, scope, and sequence of Vocational Education at the various grade levels through grade 14?	n	821	614	92	76	19	20
			$\bar{x}$	3.983	3.910	4.141	4.145	4.368	4.450
			sd	0.986	1.007	0.833	1.016	0.761	0.826
6	29	What elements should be included in, and what assistance is needed in developing comprehensive, long-range plans for Vocational Education at the local level?	n	834	622	94	79	19	20
			$\bar{x}$	3.922	3.905	3.915	4.101	3.684	4.050
			sd	0.945	0.939	0.912	0.914	1.250	0.999

RANK	ITEM #	ITEM		TOTAL SAMPLE	TEACHERS	Superintendents & Principals	Administrative & Support	State Voc. Ed. Division Staff	Teacher-Educators
7	14	What technical assistance should be provided to districts, individual schools, and vocational teachers by the Division of Vocational Education or the State Staff?	n	833	619	94	81	19	20
			$\bar{x}$	3.827	3.837	3.734	3.877	4.158	3.500
			sd	0.973	0.956	0.964	0.967	1.068	1.357
8	15	What is the effectiveness of alternative learning strategies? For example, simulation or individualized instruction.	n	835	621	94	81	19	20
			$\bar{x}$	3.775	3.758	3.660	4.049	3.632	3.950
			sd	0.978	0.982	0.945	0.973	0.955	0.945
9	30	Is it feasible to use paraprofessionals (e.g., teacher-aides, lab assistants) in Vocational Education programs in Arizona and what problems would need to be resolved to impelment this practice?	n	831	619	94	79	19	20
			$\bar{x}$	3.771	3.814	3.447	3.899	3.368	3.850
			sd	1.087	1.091	1.064	1.093	0.831	1.040
10	24	What procedures provide for the effective evaluation of Vocational Education programs?	n	836	623	94	81	19	19
			$\bar{x}$	3.742	3.685	3.755	4.037	4.105	4.053
			sd	1.001	1.023	0.838	0.955	0.875	1.079
11	8	What practices and procedures will bring about articulation and coordination among cooperative education, work experience, and work exposure programs?	n	837	623	93	82	19	20
			$\bar{x}$	3.740	3.727	3.699	3.976	3.421	3.800
			sd	1.072	1.099	1.008	0.981	0.961	0.894
12	27	What is the image of Vocational Education in the eyes of the public? Is Vocational Education perceived differently by different groups?	n	836	625	94	79	18	20
			$\bar{x}$	3.710	3.701	3.532	3.937	3.778	3.700
			sd	1.068	1.090	0.980	0.938	0.943	1.342

RANK	ITEM #	ITEM		TOTAL SAMPLE	TEACHERS	Superintendents & Principals	Administrative & Support	State Voc. Ed. Division Staff	Teacher-Educators
13	12	What methods and procedures are effective in providing career guidance services to students? For example, when is group counseling more effective than individual counseling?	n	840	625	94	83	18	20
			$\bar{x}$	3.692	3.670	3.734	3.892	3.778	3.300
			sd	0.997	0.997	0.986	1.000	0.878	1.129
14	31	Can the current level of Vocational Education services be provided at a lower cost?	n	830	618	93	80	19	20
			$\bar{x}$	3.657	3.610	3.860	3.762	3.737	3.700
			sd	1.040	1.049	0.996	1.070	0.806	1.031
15	18	To what extent does manpower and employment data play a role in vocational program planning at the local level?	n	837	623	94	81	19	20
			$\bar{x}$	3.614	3.562	3.489	4.086	3.579	3.950
			sd	1.091	1.095	1.013	1.015	1.170	1.050
16	16	How effective are various in-service programs regarding professional development of experienced teachers?	n	835	624	94	79	18	20
			$\bar{x}$	3.602	3.569	3.521	3.924	3.611	3.900
			sd	1.022	1.033	0.826	1.071	1.037	1.071
17	21	What alternative methods are available to provide Vocational Education for handicapped persons?	n	837	625	94	80	19	19
			$\bar{x}$	3.601	3.514	3.819	3.862	4.105	3.684
			sd	1.050	1.080	0.892	0.924	0.809	1.003
18	22	What alternative methods are available for providing adult education and continuing education services to the community?	n	836	625	94	79	18	20
			$\bar{x}$	3.477	2.923	3.447	3.797	3.944	3.900
			sd	1.099	1.264	1.033	1.102	0.873	1.334

RANK	ITEM #	ITEM		TOTAL SAMPLE	TEACHERS	Superintendents & Principals	Administrative & Support	State Voc. Ed. Division Staff	Teacher-Educators
19	13	How can conflict between two or more vocational teaching areas be reduced when an occupational program requires planning and instruction from all areas involved? For example, a fashion merchandising curriculum may be planned by home economics and distributive education personnel.	n	834	622	94	79	19	20
			$\bar{x}$	3.466	3.500	3.340	3.456	3.526	3.000
			sd	1.108	1.104	0.945	1.238	1.307	1.170
20	25	What practices and procedures lead to the effective utilization of advisory committees?	n	839	626	94	80	19	20
			$\bar{x}$	3.455	3.403	3.021	3.850	3.737	3.650
			sd	1.061	1.068	1.057	1.057	0.933	1.137
21	7	What barriers restrict articulation and coordination between career exploration programs and career preparation programs, and how can these barriers be minimized? These programs are commonly offered at secondary and postsecondary levels.	n	833	619	93	82	19	20
			$\bar{x}$	3.445	3.394	3.419	3.768	3.789	3.400
			sd	1.064	1.053	1.025	1.092	1.084	1.231
22	10	Can vocational youth organizations be justified on the basis of learning outcomes?	n	839	625	94	81	19	20
			$\bar{x}$	3.402	3.386	3.479	3.420	3.684	3.100
			sd	1.167	1.201	1.002	1.160	1.057	1.071
23	9	What are some effective methods for increasing the involvement of teachers and other individuals in vocational youth organizations?	n	838	623	94	82	19	20
			$\bar{x}$	3.370	3.324	3.553	3.451	3.632	3.300
			sd	1.114	1.136	0.935	1.146	1.065	1.129

RANK	ITEM #	ITEM		TOTAL SAMPLE	TEACHERS	Superintendents & Principals	Administrative & Support	State Voc. Ed. Division Staff	Teacher-Educators
24	17	Will vocational teacher education be improved by allocating in-service responsibilities on a geographic basis within the state?	n	831	619	94	80	18	20
			$\bar{x}$	3.234	3.244	3.181	3.350	2.889	3.050
			sd	1.082	1.084	0.972	1.181	0.758	1.317
25	26	What are the perceptions of vocational educators regarding both themselves and the field of Vocational Education?	n	834	622	94	79	19	20
			$\bar{x}$	3.110	3.109	3.021	3.177	3.053	3.300
			sd	1.141	1.150	1.057	1.152	1.079	1.342
26	23	What is the impact on Vocational Education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age?	n	836	625	93	80	19	19
			$\bar{x}$	2.941	2.923	2.935	3.100	2.947	2.737
			sd	1.239	1.264	1.101	1.289	0.970	1.195

TABLE I - 2
PHASE I RESPONSES:
TEACHER TOTAL

Rank Order	Item Number	Mean Score
1	28	4.205
2	32	4.141
3	11	4.088
4	19	4.040
5	20	4.019
6	29	3.905
7	14	3.837
8	30	3.814
9	15	3.758
10	8	3.727
11	27	3.701
12	24	3.685
13	12	3.670
14	31	3.610
15	16	3.569
16	18	3.562
17	21	3.514
18	13	3.500
19	22	3.413
20	25	3.403
21	7	3.394
22	10	3.386
23	9	3.324
24	17	3.244
25	26	3.109
26	23	2.923

TABLE I - 3
PHASE I RESPONSES:
SUPERINTENDENTS AND PRINCIPALS

Rank Order	Item Number	Mean Score
1	11	4.266
2	28	4.223
3	32	4.141
4	20	3.979
5	29	3.915
6	19	3.862
7	31	3.860
8	21	3.819
9	24	3.755
10.5	12	3.734
10.5	14	3.734
12	8	3.699
13	15	3.660
14	9	3.553
15	27	3.532
16	16	3.521
17	18	3.489
18	10	3.479
19.5	30	3.447
19.5	22	3.447
21	7	3.419
22	25	3.372
23	13	3.340
24	17	3.181
25	26	3.021
26	23	2.935

TABLE I - 4
PHASE I RESPONSES:
ADMINISTRATIVE AND SUPPORT

Rank Order	Item Number	Mean Score
1	28	4.287
2	11	4.253
3	32	4.145
4	29	4.101
5.5	18	4.086
5.5	20	4.086
7	15	4.049
8	24	4.037
9	8	3.976
10	19	3.975
11	27	3.937
12	16	3.924
13	30	3.899
14	12	3.892
15	14	3.877
16	21	3.862
17	25	3.850
18	22	3.797
19	7	3.768
20	31	3.762
21	13	3.456
22	9	3.451
23	10	3.420
24	17	3.350
25	26	3.177
26	23	3.100

TABLE I - 5
PHASE I RESPONSES:
STATE VOCATIONAL EDUCATION DIVISION STAFF

Rank Order	Item Number	Mean Score
1	28	4.474
2	32	4.368
3.5	11	4.158
3.5	14	4.158
5.5	21	4.105
5.5	24	4.105
7	19	3.947
8	22	3.944
9	20	3.842
10	7	3.789
11.5	12	3.778
11.5	27	3.778
13.5	25	3.737
13.5	31	3.737
15.5	10	3.684
15.5	29	3.684
17.5	9	3.632
17.5	15	3.632
19	16	3.611
20	18	3.579
21	13	3.526
22	8	3.421
23	30	3.368
24	26	3.053
25	23	2.947
26	17	2.889

TABLE I - 6
PHASE I RESPONSES:
TEACHER-EDUCATORS

Rank Order	Item Number	Mean Score
1.5	28	4.450
1.5	32	4.450
3	24	4.053
4	29	4.050
5.5	15	3.950
5.5	18	3.950
7.5	16	3.900
7.5	22	3.900
9.5	11	3.850
9.5	30	3.850
11	8	3.800
13.5	19	3.700
13.5	20	3.700
13.5	27	3.700
13.5	21	3.700
16	21	3.684
17	25	3.650
18	14	3.500
19	7	3.400
21	9	3.300
21	12	3.300
21	26	3.300
23	13	3.000
24	10	3.100
25	17	3.050
26	23	2.737

TABLE I - 7
PHASE I RESPONSES RANKED BY ALL TEACHERS IN THE SAMPLE

RANK	ITEM #	ITEM		TEACHER TOTAL	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Teach-ing, Other
1	28	What knowledge, skill, and attitude competencies are required for specific occupations and which competencies should be taught in Vocational Education?	n	620	42	228	51	43	145	81	30
			$\bar{x}$	4.205	4.286	4.246	3.980	4.023	4.131	4.407	4.233
			sd	0.863	0.944	0.797	1.010	0.938	0.915	0.685	0.935
2	32	What is (or should be) the nature, scope, and sequence of Vocational Education at the various grade levels through grade 14?	n	614	42	225	51	42	144	80	30
			$\bar{x}$	4.141	3.810	3.844	3.824	3.310	4.160	4.087	3.867
			sd	0.833	0.917	0.990	0.932	1.259	0.874	0.930	1.358
3	11	What career guidance services are most needed by students? For example, career information, testing.	n	628	42	227	54	43	148	84	30
			$\bar{x}$	4.088	4.024	4.048	4.019	4.209	4.041	4.262	4.167
			sd	0.916	0.780	0.942	0.879	0.861	0.947	0.866	1.020
4	19	What are the benefits of Vocational Education other than those that are job related? For example, social adjustment, coping skills, or any knowledge, skill or attitude that contributes to a well-adjusted life.	n	629	42	229	54	43	148	83	30
			$\bar{x}$	4.040	4.000	3.908	3.926	3.884	4.291	4.229	3.767
			sd	0.959	1.012	0.994	0.887	1.005	0.835	0.888	1.165
5	20	How effective is vocational education in teaching general employability skills as compared to specific manipulative skills?	n	628	42	229	54	43	147	83	30
			$\bar{x}$	4.019	3.976	4.000	4.019	3.767	4.075	4.108	4.067
			sd	0.909	0.841	0.889	0.901	1.088	0.877	0.884	1.112
6	29	What elements should be included in, and what assistance is needed in developing comprehensive, long-range plans for Vocational Education at the local level?	n	622	42	227	53	43	146	81	30
			$\bar{x}$	3.905	4.000	3.877	3.811	3.721	3.904	4.074	3.967
			sd	0.939	0.963	0.961	0.856	0.984	0.942	0.803	1.129

RANK	ITEM #	ITEM		TEACHER TOTAL	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Teach-ing, Other
7	14	What technical assistance should be provided to districts, individual schools, and vocational teachers by the Division of Vocational Education or the State Staff?	n	619	42	227	54	43	143	80	30
			$\bar{x}$	3.837	4.310	3.683	3.852	3.628	3.818	4.100	4.000
			sd	0.956	0.841	0.939	0.979	0.976	0.954	0.866	1.083
8	30	Is it feasible to use paraprofessionals (e.g., teacher-aides, lab assistants) in Vocational Education programs in Arizona and what problems would need to be resolved to implement this practice?	n	619	41	227	53	43	144	81	30
			$\bar{x}$	3.814	3.878	3.709	3.736	3.674	4.076	3.802	3.633
			sd	1.091	1.269	1.111	1.003	1.107	0.976	1.077	1.245
9	15	What is the effectiveness of alternative learning strategies? For example, simulation or individualized instruction.	n	621	41	227	54	43	144	82	30
			$\bar{x}$	3.758	3.146	3.925	3.537	3.953	3.771	3.634	3.733
			sd	0.982	1.038	0.959	0.946	1.090	0.825	1.094	0.980
10	8	What practices and procedures will bring about articulation and coordination among cooperative education, work experience, and work exposure programs?	n	623	41	228	53	42	148	81	30
			$\bar{x}$	3.727	3.561	3.737	3.679	3.714	3.791	3.691	3.767
			sd	1.099	1.119	1.062	1.237	1.132	1.144	1.020	1.104
11	27	What is the image of Vocational Education in the eyes of the public? Is Vocational Education perceived differently by different groups?	n	625	42	228	53	43	146	83	30
			$\bar{x}$	3.701	3.833	3.649	3.887	3.442	3.596	3.904	3.900
			sd	1.090	1.146	1.049	0.974	1.221	1.099	1.055	1.269
12	24	What procedures provide for the effective evaluation of Vocational Education programs?	n	623	41	228	53	43	146	82	30
			$\bar{x}$	3.685	3.634	3.645	3.434	3.884	3.747	3.707	3.867
			sd	1.023	1.157	0.994	1.010	0.956	1.023	0.975	1.252

RANK	ITEM #	ITEM		TEACHER TOTAL	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Teach-ing, Other
13	12	What methods and procedures are effective in providing career guidance services to students? For example, when is group counseling more effective than individual counseling?	n	625	42	229	53	42	147	82	30
			$\bar{x}$	3.670	3.286	3.699	3.528	3.857	3.639	3.793	3.800
			sd	0.997	1.043	0.974	0.932	0.977	1.000	0.978	1.186
14	31	Can the current level of Vocational Education services be provided at a lower cost?	n	618	42	226	53	42	144	81	30
			$\bar{x}$	3.610	3.548	3.695	3.321	3.619	3.618	3.716	3.233
			sd	1.049	1.087	1.033	1.034	1.058	1.003	1.040	1.278
15	16	How effective are various in-service programs regarding professional development of experienced teachers?	n	624	42	225	53	43	145	84	30
			$\bar{x}$	3.569	3.381	3.178	3.528	3.744	3.641	3.500	3.800
			sd	1.033	1.229	0.970	0.932	1.049	1.018	1.146	1.095
16	18	To what extent does manpower and employment data play a role in vocational program planning at the local level?	n	623	42	227	54	41	145	84	30
			$\bar{x}$	3.562	3.452	3.586	3.222	4.073	3.531	3.560	3.600
			sd	1.095	1.109	1.041	1.093	1.104	1.054	1.144	1.329
17	21	What alternative methods are available to provide Vocational Education for handicapped persons?	n	625	42	228	54	43	148	81	29
			$\bar{x}$	3.514	3.214	3.482	3.352	3.395	3.709	3.519	3.655
			sd	1.080	1.094	1.105	1.012	1.137	1.071	0.868	1.370
18	13	How can conflict between two or more vocational teaching areas be reduced when an occupational program requires planning and instruction from all areas involved? For example, a fashion merchandising curriculum may be planned by home economics and distributive education personnel.	n	622	42	227	54	42	144	83	30
			$\bar{x}$	3.500	3.286	3.511	3.907	3.167	3.812	3.120	3.000
			sd	1.104	1.043	1.066	0.996	1.102	1.084	1.029	1.313

RANK	ITEM #	ITEM		TEACHER TOTAL	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Teach-ing, Other
19	22	What alternative methods are available for providing adult education and continuing education services to the community?	n	625	42	227	54	42	148	82	30
			$\bar{x}$	3.413	3.452	3.352	3.241	3.762	3.318	3.610	3.567
			sd	1.093	0.968	1.084	1.027	1.031	1.149	1.074	1.194
20	25	What practices and procedures lead to the effective utilization of advisory committees?	n	626	42	228	53	43	148	82	30
			$\bar{x}$	3.403	3.929	3.368	3.264	3.326	3.304	3.585	3.267
			sd	1.068	0.997	1.093	1.003	1.063	1.054	1.042	1.048
21	7	What barriers restrict articulation and coordination between career exploration programs and career preparation programs, and how can these barriers be minimized? These programs are commonly offered at secondary and postsecondary levels.	n	619	41	226	52	42	147	82	29
			$\bar{x}$	3.394	3.146	3.314	3.442	3.500	3.442	3.561	3.414
			sd	1.053	0.937	0.972	0.958	1.254	1.171	1.007	1.150
22	10	Can vocational youth organizations be justified on the basis of learning outcomes?	n	625	42	228	54	42	147	82	30
			$\bar{x}$	3.386	3.929	3.272	3.722	2.524	3.605	3.390	3.000
			sd	1.201	1.404	1.171	1.188	0.943	1.132	1.108	1.259
23	9	What are some effective methods for increasing the involvement of teachers and other individuals in vocational youth organizations?	n	623	42	228	54	42	147	80	30
			$\bar{x}$	3.324	3.738	3.202	3.259	2.619	3.565	3.525	3.067
			sd	1.136	1.170	1.147	1.049	0.987	1.079	1.043	1.285
24	17	Will vocational teacher education be improved by allocating in-service responsibilities on a geographic basis within the state?	n	619	42	225	54	42	142	84	30
			$\bar{x}$	3.244	3.262	3.178	3.204	3.429	3.359	3.179	3.167
			sd	1.084	1.170	1.024	1.088	1.016	1.094	1.142	1.289

RANK	ITEM #	ITEM		TEACHER TOTAL	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Teach-ing, Other
25	26	What are the perceptions of vocational educators regarding both themselves and the field of Vocational Education?	n	622	42	228	53	42	145	83	29
			$\bar{x}$	3.109	2.905	3.088	3.057	3.119	3.069	3.337	3.207
			sd	1.150	1.265	1.142	0.908	1.017	1.194	1.129	1.424
26	23	What is the impact on Vocational Education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age?	n	625	42	229	54	42	147	81	30
			$\bar{x}$	2.923	2.548	3.100	2.704	2.976	3.075	2.543	2.700
			sd	1.264	1.418	1.226	1.002	1.259	1.309	1.173	1.442

the mean score of responses from the various vocational education teaching areas are presented in Table I - 8 through Table I - 13. Twenty-nine teachers non currently involved in a specific vocational education area responded to the Phase I survey. Their scores and rankings are reported in Table I - 14. As indicated in the tables, item 28 was ranked in one of the four highest positions by each of the vocational service areas and item 19 was in one of the five highest positions.

REVIEW AND SYNTHESIS OF LITERATURE AND RESEARCH

An objective of this research study was to identify existing literature, including research findings, pertaining to the survey or questionnaire items of Phase I. In order to attain the objective, the cataloging systems of the Educational Information Resources Center (ERIC) and Abstracts of Instructional Materials and Abstracts of Research Materials (AIM and ARM) were searched. Table I - 15 shows the number of items on the Phase I questionnaire that were addressed by various references in ERIC and AIM/ARM. The table does not indicate the number of references but whether data pertaining to a Phase I question is included in at least one reference. The appendix contains abstracts of all appropriate studies that were located.

Referring again to the table, it can be seen that the "total questions addressed" figure is broken down further to indicate references specific to research statements and problem statements respectively. The division of statements into two categories was made following analysis of Phase I survey responses when it was determined that twelve of the twenty-six items were not actual research questions. Non-research items were labeled as problem statements. These items, even though they were not research

TABLE I - 8
PHASE I RESPONSES:
VOCATIONAL AGRICULTURE TEACHERS

Rank Order	Item Number	Mean Score
1	14	4.310
2	28	4.286
3	11	4.024
4.5	19	4.000
4.5	29	4.000
6	20	3.976
7.5	10	3.929
7.5	25	3.929
9	30	3.878
10	27	3.833
11	32	3.810
12	9	3.738
13	24	3.634
14	8	3.561
15	31	3.548
16.5	22	3.452
16.5	18	3.452
18	16	3.381
19.5	12	3.286
19.5	13	3.286
21	17	3.262
22	21	3.214
23	7	3.146
24	15	3.146
25	26	2.905
26	23	2.548

TABLE I - 9
PHASE I RESPONSES:
BUSINESS AND OFFICE EDUCATION TEACHERS

Rank Order	Item Number	Mean Score
1	28	4.286
2	11	4.048
3	20	4.000
4	15	3.925
5	19	3.908
6	29	3.877
7	32	3.844
8	8	3.737
9	30	3.709
10	12	3.699
11	31	3.695
12	14	3.683
13	27	3.649
14	24	3.645
15	18	3.586
16	16	3.529
17	13	3.511
18	21	3.482
19	25	3.368
20	22	3.352
21	7	3.314
22	10	3.272
23	9	3.202
24	17	3.178
25	23	3.100
26	26	3.088

TABLE I - 10
PHASE I RESPONSES:
DISTRIBUTIVE EDUCATION TEACHERS

Rank Order	Item Number	Mean Score
1.5	11	4.019
1.5	20	4.019
3	26	3.057
4	28	3.980
5	19	3.926
6	13	3.907
7	27	3.887
8	14	3.852
9	32	3.824
10	29	3.811
11	30	3.736
12	10	3.722
13	8	3.679
14	15	3.537
15.5	12	3.528
15.5	16	3.528
17	7	3.442
18	24	3.434
19	21	3.352
20	31	3.321
21	25	3.264
22	9	3.259
23	22	3.241
24	18	3.222
25	17	3.204
26	23	2.704

TABLE I - 11
PHASE I RESPONSES:
HEALTH OCCUPAITONS TEACHERS

Rank Order	Item Number	Mean Score
1	11	4.209
2	18	4.073
3	28	4.023
4	15	3.953
5.5	19	3.884
5.5	24	3.884
7	12	3.857
8	20	3.767
9	22	3.762
10	16	3.744
11	29	3.721
12	8	3.714
13	30	3.674
14	14	3.628
15	31	3.619
16	7	3.500
17	27	3.442
18	17	3.429
19	21	3.394
20	25	3.326
21	32	3.310
22	13	3.167
23	26	3.119
24	23	2.976
25	9	2.619
26	10	2.524

TABLE I - 12
PHASE I RESPONSES:
HOME ECONOMICS TEACHERS

Rank Order	Item Number	Mean Score
1	19	4.291
2	32	4.160
3	28	4.131
4	30	4.076
5	20	4.075
6	11	4.041
7	29	3.904
8	14	3.818
9	13	3.812
10	8	3.791
11	15	3.771
12	24	3.747
13	21	3.709
14	16	3.641
15	12	3.639
16	31	3.618
17	10	3.605
18	27	3.596
19	9	3.565
20	18	3.531
21	7	3.442
22	17	3.359
23	22	3.318
24	25	3.304
25	23	3.075
26	26	3.069

TABLE I - 13
PHASE I RESPONSES:
INDUSTRIAL EDUCATION TEACHERS

Rank Order	Item Number	Mean Score
1	28	4.407
2	11	4.262
3	19	4.229
4	20	4.108
5	14	4.100
6	32	4.087
7	29	4.074
8	27	3.904
9	30	3.802
10	12	3.793
11	31	3.716
12	24	3.707
13	8	3.691
14	22	3.610
15	25	3.585
16	7	3.561
17	18	3.560
18	9	3.525
19	21	3.519
20	16	3.500
21	15	3.634
22	10	3.390
23	26	3.337
24	17	3.179
25	13	3.120
26	23	2.543

TABLE I - 14
PHASE I RESPONSES
TEACHING, OTHER

Rank Order	Item Number	Mean Score
1	28	4.233
2	11	4.167
3	20	4.067
4	14	4.000
5	29	3.967
6	27	3.900
7.5	24	3.867
7.5	32	3.867
9.5	16	3.800
9.5	12	3.800
11.5	8	3.767
11.5	19	3.767
13	15	3.733
14	21	3.655
15	30	3.633
16	18	3.600
17	22	3.567
18	7	3.414
19	25	3.267
20	31	3.233
21	26	3.207
22	17	3.167
23	9	3.067
24	10	3.000
25	13	3.000
26	23	2.700

oriented, were included in the search of literature because of the large number of respondents who were interested in the topics.

As illustrated by Table I - 15 there is a dearth of literature available on the topics in question. Gaps in the literature appear to widen when available data are categorized by vocational education teaching area. For example, references for only seven of twenty-six questions were located for the agriculture teaching area. Two of the seven were research statements, while the remaining five were of a non-research or problem nature. The largest number of related references were those placed in the general vocational area. While a general vocational teaching area per se does not exist in Arizona, the category is used to classify related literature that is applicable to virtually all vocational programs. As indicated, of twenty questions that were addressed, nine were of a research nature.

Table I - 16 provides a further refinement of Table I - 15 in that the number of ERIC or AIM/ARM references is indicated for each question on the Phase I survey.

TABLE I - 15

Number of Questions in Phase I Survey Addressed in Current Literature for Each Vocational Teaching Area

	Total Questions Addressed	Research Statements	Problem Statements
Agriculture	7	2	5
Business and Office	3	---	3
Distributive Education	9	4	5
Health	5	2	3
Home Economics	5	3	2
Trade and Industrial	6	3	3
General Vocational	20	9	11

TABLE I - 16

Number of References for each Question Categorized by Teaching Area

Item Number	ITEM	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Gen. Voc.
7	What barriers restrict articulation and coordination between career exploration programs and career preparation programs, and how can these barriers be minimized? These programs are commonly offered at secondary and postsecondary levels.	0	0	0	0	0	1	1
8	What practices and procedures will bring about articulation and coordination among cooperative education, work experience, and work exposure programs?	8	5	4	0	0	0	2
9	What are some effective methods for increasing the involvement of teachers and other individuals in vocational youth organizations?	0	0	5	0	0	0	5
10	Can vocational youth organizations be justified on the basis of learning outcomes?	0	0	5	0	0	0	5
11	What career guidance services are most needed by students? For example, career information, testing.	0	0	0	0	0	0	3
12	What methods and procedures are effective in providing career guidance services to students? For example, when is group counseling more effective than individual counseling?	0	0	0	0	0	0	3
13	How can conflict between two or more vocational teaching areas be reduced when an occupational program requires planning and instruction from all areas involved? For example, a fashion merchandising curriculum may be planned by home economics and distributive education personnel.	0	0	0	0	0	1	1
14	What technical assistance should be provided to districts, individual schools, and vocational teachers by the Division of Vocational Education or the State Staff?	2	0	1	0	0	0	2
15	What is the effectiveness of alternative learning strategies? For example, simulation or individualized instruction.	0	2	2	0	2	0	1

Item Number	ITEM	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Gen. Voc.
16	How effective are various in-service programs regarding professional development of experienced teachers?	1	0	1	2	0	1	4
17	Will vocational teacher education be improved by allocating in-service responsibilities on a geographic basis within the state?	1	0	1	2	0	1	4
18	To what extent does manpower and employment data play a role in vocational program planning at the local level?	1	0	0	0	0	0	3
19	What are the benefits of Vocational Education other than those that are job related? For example, social adjustment, coping skills, or any knowledge, skill or attitude that contributes to a well-adjusted life.	0	0	0	0	0	0	0
20	How effective is vocational education in teaching general employ-ability skills as compared to specific manipulative skills?	0	0	0	0	0	0	0
21	What alternative methods are available to provide Vocational Education for handicapped persons?	0	0	0	0	0	0	2
22	What alternative methods are available for providing adult education and continuing education services to the community?	1	1	0	0	3	0	1
23	What is the impact on Vocational Education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age?	0	0	0	0	1	0	0
24	What procedures provide for the effective evaluation of Vocational Education programs?	4	0	2	1	1	1	8
25	What practices and procedures lead to the effective utilization of advisory committees?	0	0	2	2	0	0	2
26	What are the perceptions of vocational educators regarding both them-selves and the field of Vocational Education?	0	0	0	0	0	0	0

Item Number	ITEM	Agri-culture	Business & Office	Distri-butive Ed.	Health	Home Ec.	Indus-trial Ed.	Gen. Voc.
27	What is the image of Vocational Education in the eyes of the public? Is Vocational Education perceived differently by different groups?	0	0	0	0	0	0	0
28	What knowledge, skill, and attitude competencies are related for specific occupations and which competencies should be taught in Vocational Education?	0	0	0	0	0	0	0
29	What elements should be included in, and what assistance is needed in developing comprehensive, long-range plans for Vocational Education at the local level?	0	0	0	0	0	0	3
30	Is it feasible to use paraprofessionals (e.g., teacher-aides, lab assistants) in Vocational Education programs in Arizona and what problems would need to be resolved to implement this practice?	0	0	0	2	1	0	1
31	Can the current level of Vocational Education services be provided at a lower cost?	0	0	0	0	0	0	4
32	What is (or should be) the nature, scope, and sequence of Vocational Education at the various grade levels through grade 14?	0	0	0	0	0	1	1

PHASE II

Participants for Phase II of the study were selected by drawing a stratified sample from respondents to the Phase I survey. This procedure insured that all subgroups studied in Phase I would be represented in Phase II. The survey instrument was developed by scrutinizing research needs areas used in Phase I and eliminating those which could not be effectively addressed using formal research methods.

Fourteen of twenty-six statements from the Phase I survey instrument were retained for use in Phase II. Based on suggestions from participants the statements were reworded. Respondents to the Phase II survey were asked to differentiate between those areas that should be addressed immediately and those that should be researched within five years. Two response columns were provided with a five-point rating scale in each. The rating scale used was as follows:

5 = Of extremely high importance
4 = Of high importance
3 = Of medium importance
2 = Of low importance
1 = Of no importance

Mean scores, accompanied by the symbol $\bar{X}$, were computed for each research statement using the numerical values associated with each degree of importance and reported according to whether the respondent believed the topic should be addressed immediately or within five years. In addition to mean scores, the number of persons responding to a given item on the questionnaire, represented by n, and the standard deviation, represented by sd, are also reported. Standard deviation is a measure of variability or dispersion of scores about the mean score, with lower scores indicating relatively lesser degrees of dispersion.

The rank order of research statements or items in Table II - 1 through Table II - 6 is based on ten of fourteen mean scores reported in Column I on the respective tables. Research items 4, 6, 8, and 10 were not included in the ranking because in each case a majority of respondents in the total sample agreed that they were not immediate needs. It may be appropriate to reiterate at this point that the central focus of the present research study is to identify immediate vocational education research needs areas. The rank of number one was assigned to the statement with the highest mean score, number two was assigned to the second highest mean score and so on. When two or more mean scores tie, the positions in question are averaged and the same rank is assigned to each.

As shown in Table II - 1, mean scores ranged from a high of 4.358 for the item "Which career guidance services are most needed by students," to a low of 3.410 for "The effectiveness of various in-service programs for professional development of experienced teachers."

Two important considerations should be kept in mind while comparing Table II - 1 with Table II - 2 through Table II - 6. First, the overall level of mean scores is likely to be high, particularly in comparison to Phase I data, because some relatively unimportant or low scoring research topics were eliminated from the list after the first survey. Second, differences within and between subgroups are likely to be more pronounced on this survey (i.e. Phase II) because of the smaller number of respondents to each question. Table II - 4 contains an illustration of this statistical phenomenon in that six of ten statements are tied with a mean score of 4.000 in Column I.

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY			Column II RESEARCH NEEDED WITHIN 5 YEARS		
			n	x	sd	n	x	sd
1	2	Which career guidance services are most needed by students.	53	4.358	0.879	1	4.000	---
2	3	Methods and procedures that are effective in providing career guidance services to students.	42	4.238	0.878	13	4.000	0.707
3	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	39	4.128	1.031	17	3.941	1.144
4	11	The image of vocational education in the eyes of the public.	32	4.063	0.801	23	3.435	1.273
5	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	45	3.956	1.147	10	4.000	0.816
6	13	If the current level of vocational education services can be provided at a lower cost.	37	3.892	1.100	19	3.474	1.020
7	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	44	3.795	0.851	12	3.500	1.087
8	9	Procedures to provide for the effective evaluation of vocational education programs.	45	3.733	1.195	9	3.444	0.726
9	1	If vocational youth organizations can be justified on the basis of learning outcomes.	35	3.686	1.132	21	3.429	0.978
10	5	The effectiveness of various in-service programs for professional development of experienced teachers.	39	3.410	1.069	17	3.765	0.752
**	4	The effectiveness of alternative learning strategies.	27	4.222	0.641	23	3.857	0.803
**	6	The benefits of vocational education other than those that are job related.	27	3.679	1.020	29	3.786	1.228
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	25	4.040	1.207	31	2.645	1.142
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	27	3.444	1.219	29	2.897	1.047

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

TABLE II - 2 PHASE II RESPONSES: TEACHERS

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY n	x	sd	Column II RESEARCH NEEDED WITHIN 5 YEARS n	x	sd
1	2	Which career guidance services are most needed by students.	27	4.407	0.931	0	---	---
2	11	The image of vocational education in the eyes of the public.	17	4.353	0.786	11	3.636	1.502
3	3	Methods and procedures that are effective in providing career guidance services to students.	21	4.190	0.981	6	3.833	0.753
4	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	18	3.944	1.259	10	3.500	1.179
5	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	23	3.826	1.114	5	4.000	1.000
6	13	If the current level of vocational education services can be provided at a lower cost.	16	3.812	1.276	12	3.167	1.030
7	9	Procedures to provide for the effective evaluation of vocational education programs.	26	3.692	1.158	2	4.000	0.000
8	1	If vocational youth organizations can be justified on the basis of learning outcomes.	18	3.611	1.335	10	3.700	0.949
9	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	23	3.565	0.843	5	2.600	0.894
10	5	The effectiveness of various in-service programs for professional development of experienced teachers.	20	3.200	1.105	8	3.625	0.744
**	4	The effectiveness of alternative learning strategies.	16	4.250	0.577	12	3.750	0.866
**	6	The benefits of vocational education other than those that are job related.	15	3.733	1.163	13	4.077	1.188
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	14	4.143	1.099	14	2.714	1.204
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	18	3.278	1.364	10	3.100	1.370

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

TABLE II - 3 PHASE II RESPONSES: STATE VOCATIONAL EDUCATION DIVISION STAFF

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY			Column II RESEARCH NEEDED WITHIN 5 YEARS		
			n	x	sd	n	x	sd
1	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	7	4.714	0.488	3	4.667	0.577
2	2	Which career guidance services are most needed by students.	9	4.333	0.866	0	---	---
3	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	8	4.250	0.464	2	3.500	0.707
4.5	1	If vocational youth organizations can be justified on the basis of learning outcomes.	6	4.167	0.753	4	2.500	0.577
4.5	3	Methods and procedures that are effective in providing career guidance services to students.	6	4.167	0.753	4	4.000	0.000
6	9	Procedures to provide for the effective evaluation of vocational education programs.	7	3.857	1.345	2	3.000	1.414
7	13	If the current level of vocational education services can be provided at a lower cost.	8	3.750	0.886	2	3.500	0.707
8	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	8	3.500	0.886	2	3.500	0.707
9	5	The effectiveness of various in-service programs for professional development of experienced teachers.	7	3.429	1.134	3	3.333	0.577
10	11	The image of vocational education in the eyes of the public.	4	3.250	0.500	6	2.833	0.983
**	4	The effectiveness of alternative learning strategies.	4	3.500	0.577	6	3.667	0.816
**	6	The benefits of vocational education other than those that are job related.	4	3.250	0.500	6	3.833	0.753
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	4	3.750	1.500	6	3.000	0.894
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	2	4.000	1.414	8	2.375	0.744

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

TABLE II - 4 PHASE II RESPONSES: SUPERINTENDENTS AND PRINCIPALS

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY n	x	sd	Column II RESEARCH NEEDED WITHIN 5 YEARS n	x	sd
1	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	2	4.500	0.707	2	4.500	0.707
2	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	3	4.333	1.155	1	4.000	---
5.5	1	If vocational youth organizations can be justified on the basis of learning outcomes.	1	4.000	---	3	3.000	1.000
5.5	2	Which career guidance services are most needed by students.	3	4.000	---	1	4.000	---
5.5	9	Procedures to provide for the effective evaluation of vocational education programs.	2	4.000	1.4.4	2	3.500	0.707
5.5	11	The image of vocational education in the eyes of the public.	2	4.000	---	2	3.000	---
5.5	13	If the current level of vocational education services can be provided at a lower cost.	3	4.000	1.000	1	4.000	---
5.5	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	3	4.000	1.000	1	5.000	---
9	3	Methods and procedures that are effective in providing career guidance services to students.	2	3.500	0.707	2	4.000	1.414
10	5	The effectiveness of various in-service programs for professional development of experienced teachers.	1	5.000	---	3	2.667	1.528
**	4	The effectiveness of alternative learning strategies.	2	4.500	0.707	2	3.500	0.707
**	6	The benefits of vocational education other than those that are job related.	1	5.000	---	3	2.667	1.528
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	1	5.000	---	3	1.667	1.155
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	2	3.000	---	2	2.500	0.707

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

TABLE II - 5 PHASE II RESPONSES: TEACHER-EDUCATOR OR OTHER UNIVERSITY STAFF

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY			Column II RESEARCH NEEDED WITHIN 5 YEARS		
			n	x	sd	n	x	sd
1	3	Methods and procedures that are effective in providing career guidance services to students.	6	4.667	0.516	1	5.000	---
2	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	5	4.400	0.894	1	5.000	---
3	2	Which career guidance services are most needed by students.	7	4.286	0.951	0	---	---
5.5	5	The effectiveness of various in-service programs for professional development of experienced teachers.	6	4.000	0.894	1	5.000	---
5.5	9	Procedures to provide for the effective evaluation of vocational education programs.	4	4.000	1.414	2	3.500	0.707
5.5	11	The image of vocational education in the eyes of the public.	3	4.000	---	3	4.333	1.155
5.5	13	If the current level of vocational education services can be provided at a lower cost.	4	4.000	1.414	3	4.667	0.577
8	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	6	3.833	0.983	1	5.000	---
9	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	6	3.833	0.753	1	3.000	---
10	1	If vocational youth organizations can be justified on the basis of learning outcomes.	6	3.667	1.211	1	4.000	---
**	4	The effectiveness of alternative learning strategies.	2	4.000	---	4	4.500	0.577
**	6	The benefits of vocational education other than those that are job related.	4	4.00	1.155	3	4.000	1.000
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	5	3.800	1.643	2	3.500	0.707
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	2	4.500	0.707	5	3.000	0.707

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

TABLE II - 6 PHASE II RESPONSES: LOCAL DIRECTORS

Rank Order*	Item Number	ITEM	Column I RESEARCH NEEDED IMMEDIATELY			Column II RESEARCH NEEDED WITHIN 5 YEARS		
			n	x	sd	n	x	sd
1	12	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	6	4.500	0.837	1	4.000	---
2	2	Which career guidance services are most needed by students.	7	4.429	0.976	0	---	---
3	14	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.	5	4.400	0.894	2	5.000	---
4	3	Methods and procedures that are effective in providing career guidance services to students.	7	4.286	0.951	0	---	---
5	13	If the current level of vocational education services can be provided at a lower cost.	6	4.167	0.983	1	3.000	---
6	11	The image of vocational education in the eyes of the public.	6	3.833	0.983	1	3.000	---
7	7	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	5	3.800	1.095	2	4.000	---
8	5	The effectiveness of various in-service programs for professional development of experienced teachers.	5	3.600	1.140	2	4.500	0.707
9	9	Procedures to provide for the effective evaluation of vocational education programs.	6	3.500	1.378	1	3.000	---
10	1	If vocational youth organizations can be justified on the basis of learning outcomes.	4	3.250	0.500	3	4.000	1.000
**	4	The effectiveness of alternative learning strategies.	3	5.000	---	4	4.000	0.816
**	6	The benefits of vocational education other than those that are job related.	4	3.250	0.500	3	3.333	2.082
**	8	The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, relition, sex, or age.	1	4.000	---	6	2.333	1.211
**	10	Perceptions of vocational educators regarding both themselves and the field of vocational education.	3	3.667	0.577	4	3.500	1.000

*Based on Column I only. **Not included in rank because statement failed to achieve majority of n in Column I by total sample.

PHASE III

In the Phase III survey participants were asked to rank ten research statements by assigning the value of ten to the item believed to be most important to vocational education in Arizona, the value of nine to the next most important item and so on until the least important item was assigned a value of one. As an aid to respondents in ranking the items, this additional information was provided on the survey form:

1. The total sample rating for each item on the Phase II questionnaire.
2. The individual respondent's rating for items classified in the "Research Needed Immediately" column on the Phase II questionnaire.

Consistent with previous portions of the study, mean scores, number of respondents and standard deviations were reported for each item. Further, the ten research items were placed in rank order, with the rank of number one being assigned to the statement with the highest mean score. To accommodate ties in the mean scores between two items the portions of the items in question were averaged and the same rank was assigned to each.

Based upon this research then, Vocational educators in Arizona representing all levels are recommending that research resource allocations be assigned to determine the following in order as ranked:

1. Which career guidance services are most needed by students.
2. Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
3. Methods and procedures that are effective in providing career guidance services to students.
4. Procedures to provide for the effective evaluation of vocational education programs.
5. The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.

6. The appropriate nature, scope and sequence of vocational education at the various grade levels through grade 14.

7. The image of vocational education in the eyes of the public.

8. If vocational youth organizations can be justified on the basis of learning outcomes.

9. The effectiveness of various in-service programs for professional development of experienced teachers.

10. If the current level of vocational education services can be provided at a lower cost.

TABLE III - 1
TOTAL SAMPLE: FINAL RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=49	Item Number	Research Statements Research should be conducted to determine:
1	6.714	2	Which career guidance services are most needed by students.
2	6.102	8	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
3	5.837	3	Methods and procedures that are effective in providing career guidance services to students.
4	5.612	6	Procedures to provide for the effective evaluation of vocational education programs.
5	5.571	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
6	5.184	10	The appropriate nature, scope and sequence of vocational education at the various grade levels through grade 14.
7	*5.083	7	The image of vocational education in the eyes of the public.
8	5.061	1	If vocational youth organizations can be justified on the basis of learning outcomes.
9	4.959	4	The effectiveness of various in-service programs for professional development of experienced teachers.
10	4.878	9	If the current level of vocational education services can be provided at a lower cost.

*Based on n=48; instead of ranking item 7, one respondent substituted this statement: "Sex fairness attitude information has developed into an important research topic--I feel we must address this area now."

TABLE III - 2
VOCATIONAL EDUCATION TEACHERS AS A GROUP:
FINAL RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=21	Item Number	Research Statements Research should be conducted to determine:
1	6.429	2	Which career guidance services are most needed by students.
2	6.381	8	Which knowledge, skill, and attitude competencies should be taudht in the various vocational education areas.
4	5.810	3	Methods and procedures that are effective in providing career guidance services to students.
4	5.810	6	Procedures to provide for the effective evaluation of vocational education programs.
4	5.810	10	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.
6	5.333	4	The effectiveness of various in-service programs for professional development of experienced teachers
7	5.286	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
8	4.952	1	If vocational youth organizations can be justified on the basis of learning outcomes.
9	4.714	9	If the current level of vocational education servioes can be provided at a lower cost.
10	4.476	7	The image of vocational education in the eyes of the public.

TABLE III - 3
SUPERINTENDENTS AND PRINCIPALS:
FINAL RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=4	Item Number	Research Statements Research should be conducted to determine:
1	7.500	9	If the current level of vocational education services can be provided at a lower cost.
2.5	7.000	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
2.5	7.000	7	The image of vocational education in the eyes of the public.
4	5.750	1	If vocational youth organizations can be justified on the basis of learning outcomes.
6	5.250	2	Which career guidance services are most needed by students.
6	5.250	3	Methods and procedures that are effective in providing career guidance services to students.
6	5.250	4	The effectiveness of various in-service programs for professional development of experienced teachers.
8	4.750	8	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
9	4.250	6	Procedures to provide for the effective evaluation of vocational education programs.
10	3.000	10	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.

TABLE III - 4
LOCAL DIRECTORS:
FINAL RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=7	Item Number	Research Statements Research should be conduced to determine:
1	7.571	2	Which career guidance services are most needed by students.
2	7.143	3	Methods and procedures that are effective in providing career guidance services to students.
3	6.714	7	The image of vocational education in the eyes of the public.
4	5.857	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
5	5.429	8	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
6.5	5.143	4	The effectiveness of various in-service programs for professional development of experienced teachers.
6.5	5.143	9	If the current level of vocational education services can be provided at a lower cost.
8	4.429	1	If vocational youth organizations can be justified on the basis of learning outcomes.
9	4.143	6	Procedures to provide for the effective evaluation of vocational education programs.
10	3.429	10	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.

TABLE III - 5
STATE VOCATIONAL EDUCATION DIVISION STAFF:
RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=10	Item Number	Research Statements Research should be conducted to determine:
1	7.300	2	Which career guidance services are most needed by students.
2	6.500	6	Procedures to provide for the effective evaluation of vocational education programs.
3.5	6.000	8	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
3.5	6.000	10	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.
5	5.500	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
[illegible]	5.300	1	If vocational youth organizations can be justified on the basis of learning outcomes.
6.5	5.300	3	Methods and procedures that are effective in providing career guidance services to students.
8	4.400	9	If the current level of vocational education services can be provided at a lower cost.
9	*4.222	7	The image of vocational education in the eyes of the public.
10	4.200	4	The effectiveness of various in-service programs for professional development of experienced teachers.

*Based on n=9; instead of ranking item 7, one respondent substituted this statement: "Sex fairness attitude information has developed into an important research topic--I feel we must address this area now."

TABLE III - 6
TEACHER-EDUCATORS AND UNIVERSITY STAFF:
FINAL RANKING OF RESEARCH STATEMENTS

Rank Order	Mean Score n=7	Item Number	Research Statements Research should be conducted to determine:
1	6.857	8	Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.
2	6.714	2	Which career guidance services are most needed by students.
3	6.000	6	Procedures to provide for the effective evaluation of vocational education programs.
4	5.714	3	Methods and procedures that are effective in providing career guidance services to students.
5	5.429	5	The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.
6	5.286	1	If vocational youth organizations can be justified on the basis of learning outcomes.
7	5.143	10	The appropriate nature, scope, and sequence of vocational education at the various grade levels through grade 14.
8	5.000	7	The image of vocational education in the eyes of the public.
9	4.571	4	The effectiveness of various in-service programs for professional development of experienced teachers.
10	4.286	9	If the current level of vocational education services can be provided at a lower cost.

APPENDICES

APPENDIX A
PHASE I SURVEY INSTRUMENT

CAROLYN WARNER
SUPERINTENDENT

Arizona
Department of Education
1535 WEST JEFFERSON
PHOENIX, ARIZONA 85007
271-4361

September 13, 1976

Dear Colleague:

The Arizona Department of Education has awarded a contract to The Department of Administrative Services at Arizona State University to identify and prioritize research needs in vocational education in Arizona. Your participation is encouraged. Would you please respond to the enclosed questionnaire and return it to the director of the project, Dr. Kenneth L. Rowe, at your earliest convenience?

The results of this effort will not only aid in the effective allocation of resources, but will provide a data base for program planning.

Thank you for your cooperation.

Sincerely,

Carolyn Warner

Mrs. Ronald H. Warner
Superintendent

mm

Enclosure

ADE 22-3051

A STUDY TO IDENTIFY VOCATIONAL
EDUCATION RESEARCH NEEDS IN ARIZONA

Persons voluntarily responding should understand that this questionnaire is not an official statement on any question or issue by Arizona State University.

DUE: September 30

PURPOSE: The Arizona Department of Education, in conjunction with the Division of Career and Vocational Education and the Department of Administrative Services at Arizona State University, is in the process of identifying vocational education research needs in the state. Results of this effort will aid in the allocation of resources for vocational education research in the near future.

Name _____ Title _____

School/District Name _____

1. Number of years in present position _____ Years

2. Position (Circle one letter)

   a) Teacher (Not a cooperative coordinator)

   b) Teacher-coordinator (In a cooperative program)

   c) Principal (skip to item #5)

   d) Superintendent (skip to item #6)

   e) Director--local

   f) Member, State Vocational Education Division Staff

   g) Member, State Advisory Council for Vocational Education

   h) Teacher-educator at university

   i) _____ (Other, please specify)

3. Level (Circle one letter)

   a) Junior high school

   b) Senior high school

   c) Community college

   d) University

   e) District-staff position

   f) Adult education

   g) _____ (Other, please specify)

4. Primary teaching area (Circle letter for major activity)

   a) Agriculture

   b) Business and office

   c) Distributive education

   d) Health

   e) Home economics

   f) Industrial education

   g) _____ (Other, please specify)

5. (For principals only) Which of the following vocational programs are offered in your school? (Circle all that apply)

a) Agriculture

b) Business and office

c) Distributive education

d) Health

e) Home economics

f) Industrial

g) _____
(Other, please specify)

6. (For superintendents only) Which of the following vocational programs are offered in your district? (Circle all that apply)

a) Agriculture

b) Business and office

c) Distributive education

d) Health

e) Home economics

f) Industrial

g) _____
(Other, please specify)

INSTRUCTIONS: The questionnaire on the following pages contains a listing of research needs which have been identified through interviews with selected vocational education personnel in Arizona. If you recognize additional research needs, feel free to add your own statements in the space provided.

You are asked to relate the importance of each research need to your present position by placing a circle around the appropriate number in the rating scale following each statement.

As you read each statement, or add your own statements, keep this question in mind: "Does the research need statement describe a problem area that is important to you in your present position?" For example, if research statement #8 is of extremely high importance, then you would circle "5" in the rating scale.

5 = of extremely high importance
4 = of high importance
3 = of medium importance
2 = of low importance
1 = of no importance

Please respond to each statement even though some may appear to be similar. There are no right or wrong answers. All information will be treated confidentially, and no identification of respondents, schools, or districts will be made.

(Circle the most appropriate number in each category) RESEARCH NEEDS	Degree of Importance: Of extremely high importance	Of high importance	Of medium importance	Of low importance	Of no importance
7. What barriers restrict articulation and coordination between career exploration programs and career preparation programs, and how can these barriers be minimized? These programs are commonly offered at secondary and postsecondary levels.	5	4	3	2	1
8. What practices and procedures will bring about articulation and coordination among cooperative education, work experience, and work exposure programs?	5	4	3	2	1
9. What are some effective methods for increasing the involvement of teachers and other individuals in vocational youth organizations?	5	4	3	2	1
10. Can vocational youth organizations be justified on the basis of learning outcomes?	5	4	3	2	1
11. What career guidance services are most needed by students? For example, career information, testing.	5	4	3	2	1
12. What methods and procedures are effective in providing career guidance services to students? For example, when is group counseling more effective than individual counseling?	5	4	3	2	1

(Circle the most appropriate number in each category)	Degree of Importance				
	Of extremely high importance	Of high importance	Of medium importance	Of low importance	Of no importance
13. How can conflict between two or more vocational teaching areas be reduced when an occupational program requires planning and instruction from all areas involved? For example, a fashion merchandising curriculum may be planned by home economics and distributive education personnel.	5	4	3	2	1
14. What technical assistance should be provided to districts, individual schools, and vocational teachers by the Division of Vocational Education or the State Staff?	5	4	3	2	1
15. What is the effectiveness of alternative learning strategies? For example, simulation or individualized instruction.	5	4	3	2	1
16. How effective are various in-service programs regarding professional development of experienced teachers?	5	4	3	2	1
17. Will vocational teacher education be improved by allocating in-service responsibilities on a geographic basis within the state?	5	4	3	2	1
18. To what extent does manpower and employment data play a role in vocational program planning at the local level?	5	4	3	2	1

(Circle the most appropriate number in each category)	Degree of Importance				
	Of extremely high importance	Of high importance	Of medium importance	Of low importance	Of no importance
19. What are the benefits of Vocational Education other than those that are job related? For example, social adjustment, coping skills, or any knowledge, skill or attitude that contributes to a well-adjusted life.	5	4	3	2	1
20. How effective is vocational education in teaching general employability skills as compared to specific manipulative skills?	5	4	3	2	1
21. What alternative methods are available to provide Vocational Education for handicapped persons?	5	4	3	2	1
22. What alternative methods are available for providing adult education and continuing education services to the community?	5	4	3	2	1
23. What is the impact on Vocational Education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age?	5	4	3	2	1
24. What procedures provide for the effective evaluation of Vocational Education programs?	5	4	3	2	1
25. What practices and procedures lead to the effective utilization of advisory committees?	5	4	3	2	1

(Circle the most appropriate number in each category)	Degree of Importance				
	Of extremely high importance	Of high importance	Of medium importance	Of low importance	Of no importance
26. What are the perceptions of vocational educators regarding both themselves and the field of Vocational Education?	5	4	3	2	1
27. What is the image of Vocational Education in the eyes of the public? Is Vocational Education perceived differently by different groups?	5	4	3	2	1
28. What knowledge, skill, and attitude competencies are required for specific occupations and which competencies should be taught in Vocational Education?	5	4	3	2	1
29. What elements should be included in, and what assistance is needed in developing, comprehensive long-range plans for Vocational Education at the local level?	5	4	3	2	1
30. Is it feasible to use paraprofessionals (e.g., teacher-aides, lab assistants) in Vocational Education programs in Arizona and what problems would need to be resolved to implement this practice?	5	4	3	2	1
31. Can the current level of Vocational Education services be provided at a lower cost?	5	4	3	2	1

(Circle the most appropriate number in each category)	Degree of Importance				
	Of extremely high importance	Of high importance	Of medium importance	Of low importance	Of no importance
32. What is (or should be) the nature, scope, and sequence of Vocational Education at the various grade levels through grade 14?	5	4	3	2	1

Comments or additional research questions: _____

_____

_____

_____

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_____

Thank you for your cooperation.

RETURN TO: Dr. Kenneth Rowe
College of Business Administration
Arizona State University
Tempe, Arizona 85281

ADE 22-3051, REV 6/76
VOLUNTARY

RETURN RATE OF PHASE I SURVEY INSTRUMENT

	AGRICULTURE TEACHERS	BUSINESS AND OFFICE TEACHERS	DISTRIBUTIVE EDUCATION TEACHERS	HEALTH OCCUPATIONS TEACHERS	HOME ECONOMICS TEACHERS	INDUSTRIAL EDUCATION TEACHERS	TEACHING PERSONNEL	NON-TEACHING PERSONNEL	TOTAL
MAILED	85	501	73	211	355	280	1505	345	1850
RETURNED AND USABLE	42	229	54	43	148	84	600	244	844
% OF RETURN	49.4%	45.7%	74.0%	20.4%	41.7%	30.0%	39.9%	70.7%	45.6%

APPENDIX B
PHASE II SURVEY INSTRUMENT

ARIZONA STATE
UNIVERSITY TEMPE, ARIZONA 85281
COLLEGE OF BUSINESS ADMINISTRATION
Department of Administrative Services

October 20, 1976

Thank you,

....for your prompt response to the questionnaire entitled, "Vocational Education Needs in Arizona." You will be pleased to know that you were one of 852 educators in Arizona who responded to the lengthy and rather complex instrument.

The data are being processed. A thorough literature search is nearing completion to determine if existing research addresses some of the problem areas identified in the first questionnaire.

The next phase of the project will require a selected sample of 30 educators representing all segments sampled in the first questionnaire to respond to a second and a third instrument. These instruments will differ considerably from the first. The research needs identified in the first instrument will be converted to research statements. Those already adequately resolved by existing research will be removed and treated separately. Thus, these instruments will be much shorter. Would you be willing to participate in Phase II as one of thirty selected participants? Hopefully you will agree to join us in the continuation of this attempt to establish a sound scientific base for determination of research priorities in Arizona.

Please indicate your interest and return in the enclosed envelope. Your immediate response will be appreciated.

Sincerely,

Kenneth L. Rowe
Project Director

met

_____ Yes, I would like to continue participation.

_____ No, I would prefer not to.

_____
Name

ARIZONA STATE
UNIVERSITY TEMPE, ARIZONA 85281
COLLEGE OF BUSINESS ADMINISTRATION
Department of Administrative Services

December 13, 1976

Your continued interest in our efforts to determine vocational education research needs in Arizona is appreciated.

As indicated in my letter of October 20, the current and final phase of the project includes two questionnaires which will be mailed to you and more than 30 other educators. The first of the two questionnaires is enclosed. After data collected in this round have been analyzed, the second instrument will be constructed and mailed in late January or early February.

As a time-saving convenience for you, we have assigned a "respondent identification number" (upper right corner of questionnaire) to each educator in the selected sample. Therefore, it will not be necessary for you to write your name, address, and title on the form.

Thank you again for participating in this project.

Sincerely,

Kenneth L. Rowe
Project Director

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A STUDY TO IDENTIFY VOCATIONAL EDUCATION RESEARCH NEEDS IN ARIZONA

Return at your earliest convenience.

Persons voluntarily responding should understand that this questionnaire is not an official statement on any question or issue by Arizona State University.

INSTRUCTIONS: This questionnaire contains a listing of research statements which have been identified through interviews and a recently conducted survey of vocational education personnel in Arizona. You are asked to respond to each research statement by circling the appropriate number on one of two rating scales:

If you believe research described in the statement is needed immediately, indicate its importance in Column I.

OR

If you believe research described in the statement is not needed immediately but is needed within 5 years, indicate its importance in Column II.

RATING SCALE CODE: 5 = EHI, Of Extremely High Importance
4 = HI, Of High Importance
3 = MI, Of Medium Importance
2 = LI, Of Low Importance
1 = NI, Of No Importance

Example: If you believe research described in statement #1 is needed immediately and is of medium importance, then you would circle "3" in Column I. Or, if you believe the research is not needed immediately, but is needed within five years, and is of medium importance, then you would circle "3" in Column II.

Please respond to each statement even though some may appear to be similar. There are no right or wrong answers. All information will be treated confidentially, and no identification of respondents, schools, or districts will be made. If you do not like the wording used in a research statement, please feel free to re-word the statement.

RESEARCH SHOULD BE CONDUCTED TO DETERMINE:	Column I RESEARCH NEEDED IMMEDIATELY					Column II RESEARCH NEEDED WITHIN 5 YEARS				
	EHI	HI	MI	LI	NI	EHI	HI	MI	LI	NI
1. If vocational youth organizations can be justified on the basis of learning outcomes.	5	4	3	2	1	5	4	3	2	1
2. Which career guidance services are most needed by students.	5	4	3	2	1	5	4	3	2	1
3. Methods and procedures that are effective in providing career guidance services to students.	5	4	3	2	1	5	4	3	2	1
4. The effectiveness of alternative learning strategies.	5	4	3	2	1	5	4	3	2	1
5. The effectiveness of various in-service programs for professional development of experienced teachers.	5	4	3	2	1	5	4	3	2	1
6. The benefits of vocational education other than those that are job related.	5	4	3	2	1	5	4	3	2	1
7. The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	5	4	3	2	1	5	4	3	2	1
8. The impact on vocational education of those governmental regulations that prohibit discrimination on the basis of race, color, religion, sex, or age.	5	4	3	2	1	5	4	3	2	1
9. Procedures to provide for the effective evaluation of vocational education programs.	5	4	3	2	1	5	4	3	2	1
10. Perceptions of vocational educators regarding both themselves and the field of vocational education.	5	4	3	2	1	5	4	3	2	1
11. The image of vocational education in the eyes of the public.	5	4	3	2	1	5	4	3	2	1
12. Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	5	4	3	2	1	5	4	3	2	1
13. If the current level of vocational education services can be provided at a lower cost.	5	4	3	2	1	5	4	3	2	1
14. The appropriate nature, scope, and sequence of vocational education at the various grade level through grade 14.	5	4	3	2	1	5	4	3	2	1

Comments or additional research questions:_____

_____

_____

Thank you for your cooperation. Return in enclosed envelope to:

Dr. Kenneth L. Rowe
College of Business Administration
Arizona State University
Tempe, AZ 85281

APPENDIX C
PHASE III SURVEY INSTRUMENT

ARIZONA STATE
UNIVERSITY TEMPE, ARIZONA 85281

COLLEGE OF BUSINESS ADMINISTRATION
Department of Administrative Services

March 8, 1977

Thank you for the prompt response to the questionnaire mailed in December.

Enclosed is the final questionnaire in the project to determine vocational education research needs in Arizona. A summary of results will be sent to you after data collected in this survey round have been analyzed.

As a time-saving convenience for you, we have assigned a "respondent identification number" (upper right corner of questionnaire) to each educator in the sample. Therefore, it will not be necessary for you to write your name, address, and title on the form.

Thank you again for participating in this research study.

Sincerely

Kenneth L. Rowe
Project Director

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A STUDY TO IDENTIFY VOCATIONAL EDUCATION RESEARCH NEEDS IN ARIZONA

Return at your earliest convenience.

Persons voluntarily responding should understand that this questionnaire is not an official statement on any question or issue by Arizona State University.

This questionnaire contains a listing of vocational education research statements and three columns as follows:

Column I: FINAL RANKING--to be completed according to instructions included below.

Column II: GROUP RATING ON PREVIOUS QUESTIONNAIRE--the average rating of importance by educators in the sample for ten vocational education research statements on the previous questionnaire. On that previous questionnaire the rating scale was as follows: 5 = Of Extremely High Importance; 4 = Of High Importance; 3 = Of Medium Importance; 2 = Of Low Importance; and 1 = Of No Importance. As an example, a value of 3.7 in Column II indicates that the group as a whole rated the item as being between Medium Importance and High Importance.

Column III: YOUR RATINGS ON PREVIOUS QUESTIONNAIRE--for each of ten research statements. Only ratings from the "Research Needed Immediately" column from the previous questionnaire are reported here. Otherwise an "X" will be found in Column III on this questionnaire. NOTE: Your responses and ratings on all questions in this study are kept confidential. Only you will see your responses. The ratings are being reported here for your convenience so you may compare them with those of the sample as a whole.

INSTRUCTIONS FOR COMPLETING COLUMN I (Note: This procedure differs from that used in previous questionnaires.):

(1) Review the ten research statements. Pay particular attention to ratings in Columns II and III as they may be of help in completing Column I.

(2) In Column I, assign the value of ten (10) to the research statement you feel is most important to vocational education research in Arizona. Assign the value of nine (9) to the next most important statement and so on until the least important statement is assigned a value of one (1).

Column I FINAL RANKING	Research Statements RESEARCH SHOULD BE CONDUCTED TO DETERMINE	Column II GROUP RATING ON PREVIOUS QUESTIONNAIRE	Column III YOUR RATING* ON PREVIOUS QUESTIONNAIRE
	1. If vocational youth organizations can be justified on the basis of learning outcomes.	3.647	
	2. Which career guidance services are most needed by students.	4.423	
	3. Methods and procedures that are effective in providing career guidance services to students.	4.256	
	4. The effectiveness of various in-service programs for professional development of experienced teachers.	3.389	
	5. The effectiveness of vocational education in teaching general employability skills as compared to specific manipulative skills.	3.829	
	6. Procedures to provide for the effective evaluation of vocational education programs.	3.667	
	7. The image of vocational education in the eyes of the public.	4.100	
	8. Which knowledge, skill, and attitude competencies should be taught in the various vocational education areas.	4.000	
	9. If the current level of vocational education services can be provided at a lower cost.	3.853	
	10. The appropriate nature, scope, and sequence of vocational education at the various grade level through grade 14.	4.083	

*An "X" indicates that your response to this statement on the previous questionnaire was not in the "Research Needed Immediately" column.

Comments or additional research questions: _____

_____

_____

Thank you for your cooperation. Return in enclosed envelope to:

Dr. Kenneth L. Rowe
College of Business Administration
Arizona State University
Tempe, AZ 85281